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A Newly Adventive Ant of the Genus *Pheidole* in Southern California (Hymenoptera: Formicidae)

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Abstract.—This paper records, for the first time, in the United States the presence of *Pheidole teneriffana,* a species originally described from the Canary Islands. Colonies are established in Long Beach, Los Angeles County. The species is briefly characterized and the worker subcastes illustrated. A key is included to facilitate the separation of *P. teneriffana* from native *Pheidole* species in the Los Angeles basin.

Insects accidentally introduced into southern California from other parts of the world are a common occurrence. There are probably many more such introductions than we realize because, more often than not, the insect does not become established. Some of those that do successfully colonize here may become conspicuous as pests and others may be unobtrusive and, hence, undiscovered for years.

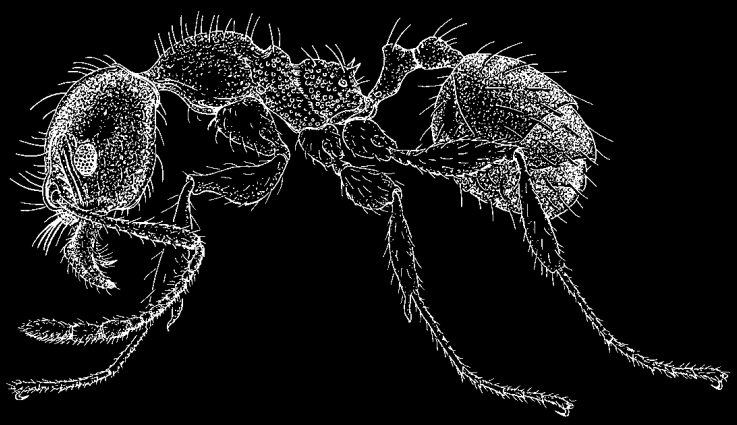
Several non-native ant species are present and firmly established here, but none has yet proven to be anything other than a nuisance. The most well known of these species is, of course, the common Argentine Ant, *Iridomyrmex humilis* (Mayr) (from South America), a conspicuous nuisance species in urban areas. Other introduced ant species in California, all from various parts of the Old World, include *Tetramorium caespitum* (Linné) ("Pavement Ant"), *Monomorium pharaonis* (Linné) ("Pharaoh Ant"), *Cardiocondyla ectopia* Snelling (no common name), and *Paratrechina longicornis* (Latreille) ("Crazy Ant").

An additional species that must be placed among those exotic ants now established in California is the myrmicine species *Pheidole teneriffana* Forel. In an error-laden note, Martinez (1992) first reported the presence of this ant in California. There are no prior records of this species in the United States, although it was recorded from Cuba by Aguayo (1932). *Pheidole teneriffana* was originally described by Forel (1893) from Teneriffe in the Canary Islands, but is now known to occur across North Africa at least as far east as Egypt.

At present, its known occurrence in California is limited to colonies found in Long Beach, Los Angeles County, by Mr. Mike Martinez, an employee of the Long Beach Parks Department. Several colonies are mature and have produced winged reproductives.

Many native species of *Pheidole* occur in California, and *P. teneriffana* shares with these the characteristic presence of two distinctly different subcastes of workers ("soldier" and "worker"). The "soldier" subcaste is larger and more robust than the "workers" and has a disproportionately larger and more massive head.

The most recent key for the separation of *Pheidole* species in the United States is that of Gregg (1958). In that key *P. teneriffana* goes to the set of couplets



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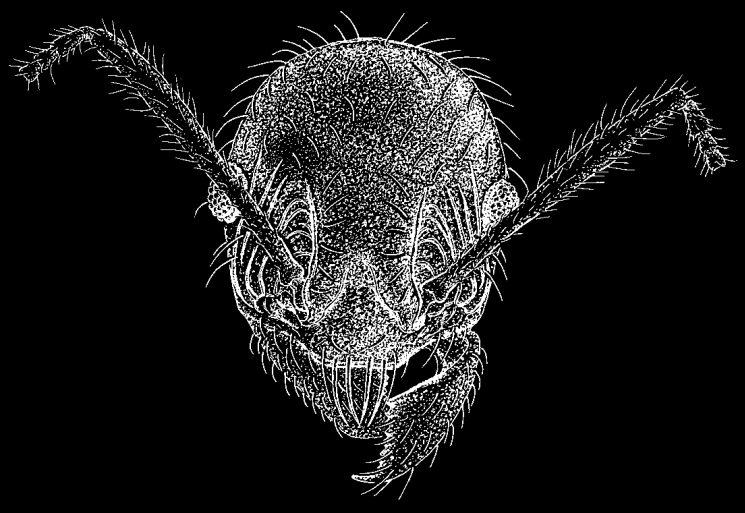
Figs. 1, 2. *Pheidole teneriffana,* minor worker (1) and major worker (2), lateral view. Figures by Tina Ross.

separating the several forms of *P. sitarches* and keys most often to *P. sitarches sitarches* Wheeler, an ant that does not occur in California.

The major worker ("soldier") (Figs. 2 and 4) of *P. teneriffana* differs from all known California species by the following combination of morphological features: head width 1.38–1.52 mm; antennal scape evenly curved and not flattened at base, extending about ¾ of distance between antennal sockets and top of vertexal lobe; margins of frontal lobes extending dorsad to base of vertexal lobes: frontal area of head with conspicuous, widely spaced longitudinal rugae that extend to



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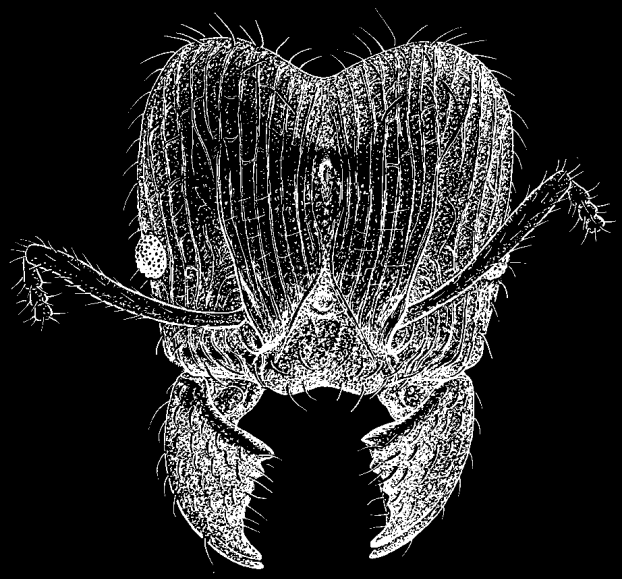

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Figs. 3, 4. *Pheidole teneriffana,* minor worker (3) and major worker (4), frontal view of head. Figures by Tina Ross.

vertex lobes, the interspaces shiny and mostly smooth; vertex strongly concave between prominent vertex lobes; pronotum without distinct humeral angles and strongly convex in profile; mesonotum in profile strongly convex; propodeal spines present and about as long as distance between their bases; pronotum anteriorly with a few transverse rugae; mesepisternum and side of propodeum contiguously punctate and with some longitudinal rugae (most conspicuous on propodeum); postpetiole mostly smooth and shiny, lateral margins angulate at about midlength; total length 3.8–4.0 mm.

Minor workers (Figs. 1 and 3) are much more difficult to characterize, but the following combination of characters should separate them from those of other species in southern California: head smooth and shiny, quadrate in frontal view, with dorsolateral angles broadly rounded and vertex convex across middle; antennal scape extending beyond vertex by about ⅓ its length; pronotum almost entirely smooth and shiny; mesepisternum and propodeum contiguously punctate and dull; mesonotum distinctly angulate in profile; propodeal spines short, slender and acute; total length 2.25–2.60 mm.

The following key will serve to separate the worker subcastes of *P. teneriffana* from those of other *Pheidole* known to occur in the Los Angeles basin.

Key to *Pheidole* of Los Angeles Area

1a. *Major* (="soldier"): sculpture of front of head various, but not consisting of continuous longitudinal rugae that extend from base of clypeus to vertex—*Minor*: head shape various, but if top of head is convex, *then* scape and tibiae bear many long, suberect to erect hairs and longest hairs of pronotum are clearly longer than greatest eye diameter 2

b. *Major* (Figs. 2, 4): sculpture of front of head consisting of coarse longitudinal rugae that extend continuously from level of base of clypeus to top of vertex. *Minor* (Figs. 1, 3): head broadly rounded in frontal view; scape and tibiae with sparse suberect to erect hairs, those of scape limited to frontal face; longest hairs of pronotum about as long as greatest eye diameter ..... *P. teneriffana* Forel

2a. *Major*: tops of vertexal lobes with transverse rugae or fine striae: antennal scape not extending more than one-half distance between antennal socket and top of vertex. *Minor*: head quadrate in frontal view, vertex transverse and abruptly rounded at sides and antennal scape extending beyond vertex by less than one-fifth its length 3

b. *Major*: tops of vertexal lobes dull to slightly shiny, devoid of striations or rugae, but with scattered punctures; apex of scape extending more than four-fifths of distance between antennal sockets and tops of vertexal lobes. *Minor*: vertex either rounded in frontal view or prolonged into short, narrow "neck"; antennal scape extending beyond vertex by at least one-fifth its length 4

3a. *Major*: top of vertex crossed by coarse transverse rugae; postpetiole node without lateral connules. *Minor*: head and pronotum smooth and shiny ..... *P. clementensis* Gregg

b. *Major*: top of vertex with fine, close striae which may be partially effaced; postpetiole node with sharp lateral connules. *Minor*: head and pronotum slightly shiny and distinctly shagreened, at least in large part ..... *P. pacifica* Wheeler

4a. *Major*: base of antennal scape broad and flattened *and* apex not extending beyond vertexal lobes. *Minor*: vertex broadly rounded in frontal view ..... *P. hyatti* Emery

b. *Major*: base of antennal scape narrow and rounded *and* apex extending well beyond vertexal lobes. *Minor*: vertex strongly and evenly narrowed into short "neck" ..... *P. vistana* Forel

The potential importance of this ant as a pest species is unknown, but I suspect low. It is likely that this species is primarily a seed-harvester and general scavenger, as are most species of *Pheidole* in temperate regions. In urban areas, at least, it will have to compete against *I. humilis,* a notoriously successful urban pest species. An additional competitor will be the native fire ant, *Solenopsis xyloni,* one of the few native species that seems to be able to withstand the Argentine ant in disturbed habitats. Between them, these two ants utilize the same resources that *P. teneriffana* might be expected to exploit.

Voucher specimens from the Long Beach population are deposited in the collections of the California Department of Food and Agriculture, Los Angeles County Museum of Natural History, Museum of Comparative Zoology, and National Museum of Natural History.

Acknowledgments

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